

COMMENTS

I. Status of claims

Claims 1-24 were pending. Claims 22-24 have been amended.

II. Allowed claims

Claims 5-7, 9-14, 20, and 21 have been allowed..

III. Claim rejections under 35 U.S.C. § 103(a)

For the purpose of the following discussion, the examiner is reminded that:

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the references or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not on applicants' disclosure.

MPEP § 706.02(j). Furthermore, as pointed out by the Patent Office Board of Appeals and Interferences:

The examiner should be aware that "deeming" does not discharge him from the burden of providing the requisite factual basis and establishing the requisite motivation to support a conclusion of obviousness.

Ex parte Stern, 13 USPQ2d 1379 (BPAI 1989).

A. Claims 1, 3, 15, and 18

The Examiner has rejected claims 1, 3, 15, and 18 under 35 U.S.C. § 103(a) over Carlotta (U.S. 5,400,060) in view of Sneed (U.S. 5,521,002).

Each of claims 1, 3, 15, and 18 requires a moisture retardant film bonded to a hot melt film or layer. With respect to these claims, the Examiner has indicated that (original emphasis):

Carlotta further teaches the laminated seal (28) having a layer (30, figs. 2 and 3) on top of the low temperature melt layer (32), the layer (30) is made of plastic material, refer to col. 3, lines 42-44. The device of Carlotta DIFFERS from claims 1, 5, and 15 in that it does not teach:

a moisture retardant base film.

As discussed above, the layer (30) functioned as a base film is made of a plastic material, such as polyester.

Sneed teaches a "matte type ink jet film", in which a matte type ink receiving media has a substrate made of such as polyester which is humidity resistant, refer to col. 3, line 60 to col. 40, line 4.

Therefore it would have been an obvious matter to understand from the teaching of Sneed that the plastic material such as taught by Carlotta is a humidity resistant material, and the term "humidity resistant" has meaning, which is equivalent to the meaning of "moisture retardant".

As explained in the prior Response, the properties of a plastic material within a given material classification, such as polyester, may vary over a wide range, depending on the way in which the plastic material is formed. For example, as indicated in the web pages contained in Appendices B and C, certain manifestations of polyester are water-permeable or semi-permeable to water. In particular, paragraph 4 of the PLASCOAT PPA571ES web page (Appendix B), teaches that "[p]olyesters are by their chemical nature water-permeable." In the paragraph following the heading entitled "How does osmosis occur?", the Osmosis web page (Appendix B) teaches that the "polyester resins used for bonding the glass fibre strands are semi-permeable and will absorb water." For this reason, in order to specify a plastic material, such as polyester, one must specify one or more properties of the plastic material in

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addition to specifying its material composition. With respect to the tear resistant layer 30, Carlotta teaches that:

flexible, tear-resistant film layer 30 is preferably made of a plastic material, such as polyester. Layer 30 has a higher melting temperature than layer 32. Any conventional flexible, tear resistant material could be used, including fabric or paper. (Col. 3, lines 42-46)

The only properties that Carlotta specifies for layer 30 are flexibility, tear-resistance, and relative melting temperature. Thus, one having ordinary skill in the art at the time of the invention would not have been led to select a moisture retardant film for the flexible, tear resistant film layer 30. Indeed, Carlotta's teaching that a fabric or paper may be used as the tear resistant film layer 30 would have led one of ordinary skill in the art at the time of the invention away from selecting a moisture retardant film.

The Examiner has pointed to the following disclosure in Sneed for the proposition that all types of polyester are "humidity resistant" (emphasis added):

Also, an object of the present invention is to provide a means for an environmentally stable media for archival storage of "master" prints and mages by the use of a thermally stable, humidity and tear resistant, non-yellowing substrate, such as polyester, onto which a composition is applied to act as the ink receptive coating, the coating also being designed to provide archivability by being non-yellowing, moisture resistant, and structurally secure.

As explained above, however, some types of polyester are water-permeable or semi-permeable to water. Therefore, the Examiner's proposition clearly is incorrect. The only reasonable interpretation of Sneed's reference to polyester is that an appropriate type of polyester (i.e., one having the properties of thermal stability, humidity and tear resistance, and non-yellowing) may be used for the substrate of the ink receiving medium. This interpretation is consistent with the explanation given above that in order to specify a plastic material, such as polyester, one must specify one or more properties of the plastic material in addition to specifying its material composition. This interpretation also is consistent with Sneed's indication that the coating "also [is] designed to provide archivability" properties, implying that the polyester material selected for the substrate is "designed" similarly.

For at least these reasons, the Examiner's rejection of claims 1, 3, 15, and 18 under 35 U.S.C. § 103(a) over Carlotta in view of Sneed should be withdrawn.

B. Claim 2

Claim 2 incorporates the features of independent claim 1 and, therefore is patentable for at least the same reasons explained above. Claim 2 also is patentable for the following addition reason.

The Examiner has acknowledged that Carlotta fails to teach that layer 30 is a polyolefin. The Examiner, however, has asserted that (emphasis added):

Iwasaki teaches an "Exposure apparatus and image forming machine including it" in which a microcapsule coated sheet (37, fig. 3) functioned as a "photo sensitive recording medium", the "photo sensitive recording medium" has a layer (31, fig. 3) is made of moisture resistant material, such material is as Amorphous polyolefin, refer to col. 12, lines 45-51.

Therefore it would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify the device of Carlotta as modified in view of Sneed to use polyolefin as the base material (30) in Carlotta's invention as taught by Iwasaki for the purpose of maintaining a stability of the sensitivity of the photosensitive recording medium so that the image quality is maintained at a high grade.

As explained above, Sneed merely teaches that his matte ink receiving media may include a particular type of polyester substrate that exhibits certain properties that are useful for an ink receiving medium. Sneed's disclosure, however, would not have led one of ordinary skill in the art at the time of the invention to select a polyolefin film for Carlotta's flexible, tear resistant film layer 30. Similarly, Iwasaki's indication that an amorphous polyolefin material may be used as or coated on the transparent substrate 31 and the sheet-like substrate 35 of a photosensitive recording medium would not have led one of ordinary skill in the art at the time of the invention to select a polyolefin film for Carlotta's flexible, tear resistant film layer 30. Indeed, the Examiner has acknowledged that Carlotta fails to teach or suggest that the tear resistant film layer 30 is moisture retardant. Therefore, it is irrelevant that Iwasaki uses moisture resistant amorphous polyolefins in a photosensitive recording medium, which is completely unrelated to Carlotta's ink jet cartridge face sealing.

The Examiner has indicated that one of ordinary skill in the art at the time of the invention would have been motivated to select a polyolefin film for Carlotta's flexible, tear resistant film layer 30 "for the purpose of maintaining a stability of the sensitivity of the photosensitive recording medium so that the image quality is maintained at a high grade." However, maintaining the sensitivity stability of a photosensitive recording medium has nothing to do with Carlotta's ink jet cartridge face sealing. It appears that the Examiner has improperly engaged in hindsight reconstruction of the claimed invention, using applicants' disclosure as a blueprint for piecing together prior art to defeat patentability. Without a proper explanation for combining the cited prior art based on the prior art teachings, the Examiner has failed to establish a proper *prima facie* case for obviousness and the rejection should be withdrawn.

For at least these additional reasons, the Examiner's rejection of claim 2 under 35 U.S.C. § 103(a) over Carlotta in view of Sneed and Iwasaki should be withdrawn.

C. Claim 19

Claim 19 incorporates the features of independent claim 18 and therefore claim 19 is patentable for at least the same reasons explained above. Claim 19 also is patentable for the following additional reasons.

The Examiner has indicated that:

The device of Carlotta as modified in view of Sneed DIFFERS from claim 19 in that it does not teach:

wherein the moisture retardant material is a pouch material.

Hartz teaches typical pouch material includes moisture resistant polymer film, ref to col. 1, lines 48-50.

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to select a pouch material as the moisture retardant material as taught by Hartz as a design choice, since a pouch material with moisture retardant property will serve the same purpose as polyester material having the same moisture retardant property.

Hartz discloses "a disposable heat storage unit of the kind comprising a latent heat substance positioned within a thermal transfer pouch" (col. 1, lines 4-6). Contrary to the

Examiner's assertion, Hartz does not teach or suggest anything that would have led one of ordinary skill in the art to place a print head sealed in accordance with Carlotta's teaching inside Hartz's thermal transfer pouch. Indeed, a print head is not a latent heat substance of the kind for which Hartz's pouch is explicitly designed.

Moreover, none of the cited references teaches or suggests anything that would have led one of ordinary skill in the art at the time of the invention to heat stake a moisture retardant pouch material to a hot melt layer that is applied over nozzles of a print cartridge as required by claim 19.

For at least these additional reasons, the Examiner's rejection of claim 19 under 35 U.S.C. § 103(a) over Carlotta in view of Sneed and Hartz should be withdrawn.

D. Claims 4, 8, and 17

Dependent claim 4 incorporate the features of independent claim 1 and dependent claim 17 incorporates the features of independent claim 15. Therefore, these claims are patentable for at least the same reasons explained above.

Claims 4, 8, and 17 require that electrical contacts and lead of a print cartridge be sealed by a laminate, a hot melt layer, and a hot melt moisture retardant tape, respectively. The Examiner has rejected claims 4, 8, and 17 over Carlotta in view of Sneed and Karita (U.S. 5,850,238). The Examiner has acknowledged that Carlotta and Sneed do not teach or suggest sealing electrical contacts and leads on print cartridges. The Examiner, however, has indicated that:

Karita et al. teach a print head is sealed by a sealing member (3, fig. 18) that seals not only ejection outlets but also protects electrical contacts (201, fig. 18) and leads, refer to col. 15, lines 23-45.

Therefore it would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify the device of Carlotta as modified in view of Sneed to extend Carlotta's laminated seal to also seal the electric contacts as taught by Karita et al. for the purpose of protecting the electric contacts.

Contrary to the Examiner's assertion, Karita's teaching would not have motivated one of ordinary skill in the art at the time of the invention to extend Carlotta's laminated seal to seal electric contacts. According to Karita:

FIG. 18 shows a further embodiment, wherein the sealing member 3 seals not only the ejection outlets but also protects electric contact 201. Reference character F designates a flexible cable for the electric wiring and is connected with the electric contacts 2001 of a connector projection 4003 of the head carriage Hc. The opening 1701 of the recording head has a size enough to accommodate the projection 4003 (a×b). The opening 1700 in the top of the head is smaller than it. Therefore, it is preferable to protect the opening 1701 by the seal.

The ink jet cartridge IJC is mounted to the printer carriage Hc, so that the connector projection 4003 is inserted through the opening 1701. At this time, the opening 1701 is provided with the protection tape 3 which is the same as the tape protecting the ejection outlets. (Col. 15, lines 28-42; emphasis added)

Thus, Karita merely seals the opening of a cable socket with protection tape; Karita does not seal the electric contacts 201 with sealing tape. FIG. 18 of Karita clearly shows that the electric contacts 201 are exposed (i.e., unsealed) within the recording head. Since none of the cited references teaches or suggests sealing electric contacts or leads of a print cartridge, the combination of these references hardly would teach or suggest such a feature to one having ordinary skill in the art at the time of the invention.

For at least these additional reasons, the Examiner's rejection of claims 4, 8, and 17 under 35 U.S.C. § 103(a) over Carlotta in view of Sneed and Karita should be withdrawn.

E. Claims 22-24

Claims 22-24 have been amended to address the Examiner's concerns regarding the use of trademarks. The examiner's rejections of these claims, therefore, now should be withdrawn.